



SEQUENCE LISTING

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Gago, Gabriela Marisa
Dunan, Claudio Marcelo

<120> Transcription Factor Gene Induced by Water Deficit Conditions and
Abscisic Acid from *Helianthus annuus*, Promoter and Transgenic Plants

<130> 2510.0040000/JAG/SAC

<140> 10/520,333
<141> 2003-05-02

<150> PCT/US2003/013770
<151> 2003-05-02

<160> 30

<170> PatentIn version 3.1

<210> 1
<211> 774
<212> DNA
<213> *Helianthus annuus*

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aaacgattta ccgacaaaaca aataagtttc ctagagtaca tgtttgagac acagtcgaga 180
cccgagttaa ggatgaaaca ccagttggca cataaactcg ggcttcatcc tcgtcaagtg 240
gcgatatgggt tccagaacaa acgcgcgcga tcaaagtca ggcagattga gcaagagtat 300
aacgcgctaa agcataacta cgagacgctt gcgtctaaat ccgagtctct aaagaaaagag 360
aatcaggccc tactcaatca ggtatggttg caaacttaca atgttgcatt caactattta 420
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agttggaggt gctgagaaat gtagcagaaa agcatcaaga gaaaactagt agtagtggca 540
gcggtaaga atcggatgat cggttacga actctccgga cgttatgttt ggtcaagaaa 600
tgaatgttcc gtttgcac ggtttgcgt actttgaaga aggaaacagt ttgttggaga 660
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<213> Helianthus annuus

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aaacgattta ccgacaaaca aataagttc cttagtaca tggtagac acagtcgaga      180
cccgagttaa ggatgaaaca ccagttggca cataaactcg ggcttcatcc tcgtcaagtg      240
gcgatatggt tccagaacaa acgcgcgca tcaaagtcgaa ggcagattga gcaagagtat      300
aacgcgctaa agcataacta cgagacgctt gcgtctaaat ccgagtctct aaagaaagag      360
aatcaggccc tactcaatca gttggaggtg ctgagaaatg tagcagaaaa gcatcaagag      420
aaaactagta gtagtggcag cggtaagaa tcggatgatc gtttacgaa ctctccggac      480
gttatgttg gtcaagaaaat gaatgttccg ttttgcgacg gtttgcgta ctttgaagaa      540
ggaaacagtt tgtagggat tgaagaacaa ctgccagacc ctcaaaagtg gtggagttc      600
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<210> 3
<211> 1221
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<213> Helianthus annuus

<220>
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<222> (1)..(1221)
<223> Large allele

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atattaaaaag tagtagcccc caccacatt tttttttttt tgcacacaaac tttttccata aaatatcaaa      180
acccacgcta tgtccacttg tactttttttt tgcacacaaac tttttccata aaatatcaaa      240
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tcagaataaca ctcatctctg aacagtggcg aagcttgacg ttttcgacgg ggggtcgaa      360
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ccaaatggac	tacttgcgaa	attcaccaca	tcgggataca	ctcgctact	gcggtgaggt	660
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<210> 4
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Designed oligonucleotide based on the promoter and having Hind I
 II site

<400> 4
 gcgaagcttg atgcgaacga gtggttta 28

<210> 5
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Designed oligonucleotide based on the promoter and having Sal I
 site

<400> 5
 gcggtcgaca cctggcacat cgtatctt 28

<210> 6
 <211> 27

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<212> DNA
<213> Artificial Sequence

<220>
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<400> 6
cgcgatccg agggtttgc aagtgtat                                27

<210> 7
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Designed oligonucleotide based on the promoter and having Hind I
      II site

<400> 7
cccaagctta acctaaggcc gcctttg                                27

<210> 8
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Designed oligonucleotide based on the promoter and having Hind II
      I site

<400> 8
ggcaagctta tctcaaccga aagtgtac                                27

<210> 9
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Designed oligonucleotide based on the 5' promoter

<400> 9
atttcgcaag tagtccatt                                19

<210> 10
<211> 1015
<212> DNA
<213> Helianthus annuus

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caaaaccata	tgattttgag	ttttatctca	accgaaagtg	acatcatgac	agagaatcga	840
cataaccaaa	acgtgtaaac	gtacaactca	ccattgcgtt	gaaaaggaca	aaacaggtag	900
gattcttgtc	aaattcaacg	cgtacacac	tgcttcatct	aaacccata	ctttaagaac	960
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<210> 11
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Designed oligonucleotide that matches nucleotides 81-100 of the H
ahb-4 cDNA sequence and having Bam HI site

<400> 11
ggcggatcca acagaaacaa ccaccagg 28

<210> 12
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Designed oligonucleotide for cloning 5' cDNA and having Bam HI s
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<400> 12
ggcggatccc ctgggtggttg tttctgttg 29

<210> 13	
<211> 34	
<212> DNA	
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<223> oligonucleotide based on 5' cDNA and having Xho I site	
<400> 13	
gaggactcga gctcaagttt tttttttttt tttt	34
<210> 14	
<211> 18	
<212> DNA	
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<223> Oligonucleotide based on 5' cDNA and having Xho I site	
<400> 14	
gaggactcga gctcaagc	18
<210> 15	
<211> 29	
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<220>	
<223> Designed oligonucleotide based on the promoter and having Eco RI site	
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<212> DNA	
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<400> 16	
acctttataaa agaccactc	19
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<212> DNA	
<213> Artificial Sequence	
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<223> Designed oligonucleotide based on the promoter	

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<223> oligonucleotide to DNA-binding assays		
<400> 18		
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<210> 22		
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<220>
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27

7

<210> 23
<211> 9
<212> DNA
<213> Helianthus annuus

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<222> (5)..(5)
<223> n is a or t

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9

<210> 24
<211> 181
<212> PRT
<213> Helianthus annuus

<400> 24

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1 5 10 15

Arg Asn Glu Gly Arg Lys Arg Phe Thr Asp Lys Gln Ile Ser Phe Leu
20 25 30

Glu Tyr Met Phe Glu Thr Gln Ser Arg Pro Glu Leu Arg Met Lys His
35 40 45

Gln Leu Ala His Lys Leu Gly Leu His Pro Arg Gln Val Ala Ile Trp
50 55 60

Phe Gln Asn Lys Arg Ala Arg Ser Lys Ser Arg Gln Ile Glu Gln Glu
65 70 75 80

Tyr Asn Ala Leu Lys His Asn Tyr Glu Thr Leu Ala Ser Lys Ser Glu
85 90 95

Ser Leu Lys Lys Glu Asn Gln Ala Leu Leu Asn Gln Leu Glu Val Leu

100 105 110

Arg Asn Val Ala Glu Lys His Gln Glu Lys Thr Ser Ser Ser Gly Ser
115 120 125

Gly Glu Glu Ser Asp Asp Arg Phe Thr Asn Ser Pro Asp Val Met Phe
130 135 140

Gly Gln Glu Met Asn Val Pro Phe Cys Asp Gly Phe Ala Tyr Phe Glu
145 150 155 160

Glu Gly Asn Ser Leu Leu Glu Ile Glu Glu Gln Leu Pro Asp Pro Gln
165 170 175

Lys Trp Trp Glu Phe
180

<210> 25
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Hd-Zip domain of Athb-1

<400> 25

Leu Pro Glu Lys Lys Arg Arg Leu Thr Thr Glu Gln Val His Leu Leu
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Glu Lys Ser Phe Glu Thr Glu Asn Lys Leu Glu Pro Glu Arg Lys Thr
20 25 30

Gln Leu Ala Lys Lys Leu Gly Leu Gln Pro Arg Gln Val Ala Val Trp
35 40 45

Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu Arg Asp
50 55 60

Tyr Asp Leu Leu Lys Ser Thr Tyr Asp Gln Leu Leu Ser Asn Tyr Asp
65 70 75 80

Ser Ile Val Met Asp Asn Asp Lys Leu Arg Ser Glu Val Thr Ser Leu
85 90 95

Thr Glu Lys

<210> 26
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
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<400> 26

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Glu Lys Asn Phe Glu Leu Glu Asn Lys Leu Glu Pro Glu Arg Lys Val
20 25 30

Lys Leu Ala Gln Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Val Trp
35 40 45

Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu Lys Asp
50 55 60

Tyr Gly Val Leu Lys Thr Gln Tyr Asp Ser Leu Arg His Asn Phe Asp
65 70 75 80

Ser Leu Arg Arg Asp Asn Glu Ser Leu Leu Gln Glu Ile Ser Lys Leu
85 90 95

Lys Thr Lys

<210> 27
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
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<400> 27

Asn Lys Asn Asn Gln Arg Arg Phe Ser Asp Glu Gln Ile Lys Ser Leu
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Glu Met Met Phe Glu Ser Glu Thr Arg Leu Glu Pro Arg Lys Lys Val

20 25 30

Gln Leu Ala Arg Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Ile Trp
35 40 45

Phe Gln Asn Lys Arg Ala Arg Trp Lys Ser Lys Gln Leu Glu Thr Glu
50 55 60

Tyr Asn Ile Leu Arg Gln Asn Tyr Asp Asn Leu Ala Ser Gln Phe Glu
65 70 75 80

Ser Leu Lys Lys Glu Lys Gln Ala Leu Val Ser Glu Leu Gln Arg Leu
85 90 95

Lys Glu Ala

<210> 28
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Hd-Zip domain of Athb-12

<400> 28

Lys Ser Asn Asn Gln Lys Arg Phe Asn Glu Glu Gln Ile Lys Ser Leu
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Glu Leu Ile Phe Glu Ser Glu Thr Arg Leu Glu Pro Arg Lys Lys Val
20 25 30

Gln Val Ala Arg Glu Leu Gly Leu Gln Pro Arg Gln Met Thr Ile Trp
35 40 45

Phe Gln Asn Lys Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu Lys Glu
50 55 60

Tyr Asn Thr Leu Arg Ala Asn Tyr Asn Asn Leu Ala Ser Gln Phe Glu
65 70 75 80

Ile Met Lys Lys Glu Lys Gln Ser Leu Val Ser Glu Leu Gln Arg Leu
85 90 95

Asn Glu Glu

<210> 29
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Hd-Zip domain of Hahb-4

<400> 29

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Glu Tyr Met Phe Glu Thr Gln Ser Arg Pro Glu Leu Arg Met Lys His
20 25 30

Gln Leu Ala His Lys Leu Gly Leu His Pro Arg Gln Val Ala Ile Trp
35 40 45

Phe Gln Asn Lys Arg Ala Arg Ser Lys Ser Arg Gln Ile Glu Gln Glu
50 55 60

Tyr Asn Ala Leu Lys His Asn Tyr Glu Thr Leu Ala Ser Lys Ser Glu
65 70 75 80

Ser Leu Lys Lys Glu Asn Gln Ala Leu Leu Asn Gln Leu Glu Val Leu
85 90 95

Arg Asn Val

<210> 30
<211> 66
<212> PRT
<213> Artificial Sequence

<220> 30
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20 25 30

Met Asn Val Pro Phe Cys Asp Gly Phe Ala Tyr Phe Glu Glu Gly Asn
35 40 45

Ser Leu Leu Glu Ile Glu Glu Gln Leu Pro Asp Pro Gln Lys Trp Trp
50 55 60

Glu Phe
65